

*Morrison (W. H.) Complements of
W. H. Morrison.*

SEVERE PUERPERAL ECLAMPSIA.

THE IMMEDIATE INDUCTION OF LABOR;
RECOVERY.

BY
WILLIAM H. MORRISON, M.D.,
HOLMESBURG, PA.



REPRINTED FROM THE
TRANSACTIONS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY,
FEBRUARY 11, 1891.

SEVERE PUERPERAL ECLAMPSIA—THE IMMEDIATE INDUCTION OF LABOR; RECOVERY.

By WILLIAM H. MORRISON, M.D.

A BRIEF examination of the volumes of the *Transactions* of this Society for a number of years past, shows that among the varied subjects presented for discussion, that of puerperal convulsions has been wanting. It is especially important that in an affection like this, which in the majority of cases comes suddenly and without warning, the practitioner should have a definite idea as to the proper treatment, that he may be prepared to act promptly and efficiently. It is with the desire of bringing this subject before the profession, and with the hope of inciting a full and thorough discussion of the etiology and management of this serious malady, that a brief report of a recent case is presented.

Mrs. X., æt. twenty-two years, married nine months, and pregnant for the first time, called on me January 1, 1891, with the request that I attend her in her confinement. She was pregnant seven and a half months, had been in perfect health and had not suffered with sick stomach or other ailments common to her condition. She stated that she had never felt better in her life until within a few weeks previously, when her kidneys had begun to trouble her. During the day she was obliged to pass water frequently and at night had to get up twenty or thirty times to urinate. The water passed was said to be thick and muddy. She brought a specimen with her, which on examination was found to contain one-half its bulk of albumin. Microscopical examination failed to reveal tube-casts. She was given a mixture containing tincture of digitalis and bromide of potassium, and requested to bring another specimen of urine in the course of a week. I might state at this point, that one or two years previously I had examined the urine of this patient and found it normal.

At six o'clock the following evening, January 2d, the mother of the patient came, stating that her daughter was suffering with headache and asked that something be given to relieve it. Five grains of antipyrine were ordered, with instructions to return in two hours if the headache were not better. At the same time, I told the mother that owing to the state of the kidneys there was a possibility that convulsions might occur, and that if the condition of the urine did not speedily improve, the advisability of inducing premature labor would have to be considered. I heard nothing more from the patient until 2 A. M., eight hours later, when I was summoned with the statement that she had a convulsion. I found that she had had two severe general convulsions in which she had bitten her tongue, but when I saw her she was quiet and semi-conscious, and soon after roused sufficiently to recognize those about her. She was given ten grains of Dover's powder, which was swallowed



readily. A specimen of the urine which had been passed at eleven o'clock the previous evening was secured and found to contain over one-half its bulk of albumin. I regret to say that the specific gravity was not noted. No tube-casts were found. At this time I informed the family that in the morning I would call Dr H. A. P. Neel, of Tacony, in consultation, and if he approved, would at once induce premature labor. To this proposition prompt consent was given. From this time until 8.30 A. M., when Dr. Neel saw her with me, she had at least four convulsions, and in the intervals there was a constant tendency to muscular twitching. Dr. Neel agreeing as to the propriety of bringing the pregnancy to an end as speedily as possible, the vagina was irrigated with a bichloride solution, and an English flexible catheter the openings of which were closed with wax, and which had been soaking for an hour in a bichloride solution, was introduced its entire length between the membranes and the wall of the uterus, care being taken not to rupture the membranes. The os was found dilated sufficiently to admit one finger, and the head was presenting. A bichloride tampon was then placed in the vagina. Two ounces of a dark, chocolate-colored urine were withdrawn with the catheter.

From this time the patient was under constant observation. There was a tendency to the recurrence of the convulsions, which were only prevented by the administration of ether. The anæsthetic was not given continuously, but only when the twitching of the eyelids, or of the muscles of the fingers, showed that a paroxysm was imminent. By this means the majority of the spasms were averted, although several did occur. While waiting for labor to begin, not having pilocarpine at hand, I injected ten minims of fluid extract of jaborandi hypodermatically, and in the course of thirty minutes injected twenty minims more. This produced free sweating and salivation. During this time the patient remained in a practically unconscious condition. About one hour after the introduction of the bougie, labor pains began to manifest themselves and were evidently felt, at least to a certain extent, by the patient, as was shown by her restlessness when the uterine contractions occurred. After the pains had continued an hour and a half, the vaginal tampon was removed and it was found that the os had dilated to a diameter of two inches. The bougie was then removed and the vulvar orifice carefully dilated to an extent readily admitting the hand, and the os was stretched digitally until sufficient dilatation for the application of the forceps was secured. The membranes were then ruptured, the Hodge forceps applied and efforts at extraction cautiously made. The child was delivered without any tear of the cervix or of the perineum, five and one-half hours after the introduction of the catheter and three-fourths of an hour after the application of the forceps. Although the labor was a comparatively easy one, and not of long duration, the child was dead and probably had died in some of the earlier convulsions. The uterus contracted well and the placenta was delivered without difficulty. During the labor no convulsions occurred, ether being given in sufficient quantity to quiet restlessness. Immediately after labor she had two spasms, apparently the result of the disturbance produced by removing soiled clothing and changing her position in bed. She then became much quieter; the muscular twitchings entirely ceased, and the use of the anæsthetic was suspended. The administration of chloral was now begun, first by the rectum, but as the patient swallowed readily and as the injections caused some irritation, it was later given by the mouth in fifteen-grain doses, repeated every two hours. In all, about seventy-five grains of chloral were administered. The patient was also given water in small quantities at short intervals.

The axillary temperature immediately after delivery was found to be 104.2°. Cold was therefore applied to the head and the body sponged with tepid water every half-hour. This was followed by a steady fall of temperature, until at midnight the normal had been reached. At 5 P. M., the catheter was introduced and an ounce of dark, thick urine withdrawn. The use of the catheter was followed by two convulsions. At this time ten minims of the tincture of digitalis were administered subcutaneously and the remedy

continued by the mouth in five-drop doses every two hours. During the evening the convulsions recurred at intervals of two or three hours, occurring as a rule in groups of two, the last one appearing at midnight and being comparatively light. The free administration of water by the mouth was continued during the night.

The patient rested quietly through the night, without any twitching of the muscles, but did not regain consciousness. At 5 A. M. there was a copious discharge of urine in the bed. This was repeated twice during the day, but by evening she had regained consciousness sufficiently to use the bed-pan. Examination of the urine then passed showed that it contained one-sixth its bulk of albumin, but the microscope failed to reveal tube-casts. During the day (January 4th) she could be roused, and when spoken to would open her eyes, but not reply to questions. Skimmed milk was now given in small quantities frequently repeated, and the digitalis continued. The administration of chloral had been stopped the previous evening. Calomel in one-sixth grain doses was ordered to be repeated every hour until the bowels were freely moved. The mental power steadily improved until, by the evening of January 5th, she appreciated questions addressed to her, and replied to them intelligently, although the brain had evidently not yet resumed its normal condition. From this time forward the progress toward recovery was steady and rapid. The urine passed January 11th had a specific gravity of 1028, and contained one-fourth its bulk of albumin. No tube-casts were found, but there were many blood-corpuscles and it is probable that a large portion of the albumin was due to the admixture of blood from the uterus. Examination of urine passed January 19th showed specific gravity of 1020, and complete absence of albumin. February 10th, the urine had a specific gravity of 1028, an acid reaction, and contained no albumin.

Among the interesting features in this case are, (1) the sudden appearance of convulsions in a person who had been apparently perfectly well, with no evidence of nervous trouble until a few hours previously; (2) the almost complete suppression of urine for over twenty-four hours, no urine being passed from 11 P. M. Friday, until 5 A. M. Sunday, with the exception of three ounces withdrawn by the catheter; (3) the steady and rapid improvement that followed the emptying of the uterus. The total number of convulsions was between twenty and twenty-five, extending over a period of twenty-two hours.

The exact etiology of puerperal convulsions has not yet been positively determined. The majority of authorities agree that they are due to a toxæmia, the result of interference with the action of the kidneys, but the precise toxic agent has not been determined, nor has the manner in which the disturbance of the kidneys is brought about been agreed upon. Some hold that the interference with the function of the kidneys is due to pressure of the enlarged uterus upon the abdominal veins; others, that it is due to pressure upon the kidneys themselves, or upon the ureters; while in a recent paper¹ Dr. James Tyson advocates the view that this interference is the result "of the irritant effect upon the renal cells of some toxic substance in the blood,

¹ New York Medical Record, January 3, 1891.

the precise nature of which is unknown, but which probably represents excrementitious substances from the mother and foetus." Whether we accept the view advocated by King, that the renal congestion and inflammation is the result of pressure upon the inferior vena cava and iliac veins, or that of Halbertsma, that it is due to pressure upon the ureters, or that of Tyson, that it is due to the presence of excrementitious matters from the mother and foetus, we find that in each of these theories, an essential factor in the production of the renal derangement is the presence of the foetus. Therefore, the primary indication in the treatment of puerperal convulsions prior to delivery, is the speedy termination of pregnancy. While, by venesection, the administration of ether, chloroform, chloral, veratrum viride, and the like, we may control the paroxysms, it is only by the removal of the cause which has produced and is continuing the renal congestion and inflammation that we can expect to restore the functional activity of the kidneys on which depends our only ground of hope of removing the deleterious matters circulating in the blood. Where the convulsions occur after the period of viability, this treatment also affords the best chance of saving the life of the child, for it is generally admitted that, as a rule, death of the foetus occurs early in the attack.

While measures calculated to induce labor are practised, the convulsions should be controlled as far as possible by the use of ether, chloroform, chloral, veratrum viride, and similar agents. The action of the kidneys should be encouraged by the free administration of water by the mouth or rectum, and the renal function should be supplemented by free diaphoresis and catharsis.

In considering the treatment of these severe cases, one other point presents itself. What shall be done where the case is desperate, and where contractions of the uterus are not readily induced? It seems to me that where the effect of the poison on the system is profound, where the convulsions are violent and frequent, where the suppression of urine is practically complete, where there is no prospect of the rapid induction of labor, or where the efforts to bring on labor excite convulsions, the question of removal of the foetus by abdominal section should be seriously considered. Such a course would in a few minutes remove an important causative factor in the production of the disease, afford a better opportunity for the action of remedies intended to control the paroxysms, to stimulate the action of the kidney and to favor the excretion of poisonous matters, and probably give, both to the mother and to the child, the best chance for life.

